

EXECUTIVE SUMMARY

Prepared April 4, 1997
Revised March 8, 2001 (Permit Revision)

Mine Name: Pearl Queen Perlite
Operator: Basin Perlite Corporation
472 North Main Street
Kaysville, Utah 84037-6453

Telephone: (801) 544-3421

Contact Person: Jay Gatten, President

I.D. No.: M/001/027
County: Beaver
New/Existing: Existing
Mineral Ownership: State, Federal
Surface Ownership: State, Federal
Lease No.(s): ML 3092, UMC 47397 -
47405, UMC 47410 - 47420
Permit Term: Life of Mine

Life of Mine: 30 years + (Initial bond term 5 years)

Legal Description: SE1/4 of SE1/4, Section 2, and SW1/4 of SW1/4, Section 1, Township 27S, R9W,
Beaver County

Mineral(s) to be Mined: Perlite

Acres to be Disturbed: 23.5 Total Acres (9 new on State land, and 4.5 new on Federal land).

Present Land Use: Wildlife habitat, Mining

Postmining Land Use: Wildlife habitat

Variances from Reclamation Standards (Rule R647) Granted: None requested

Soils and Geology

Soil Description: The soil layer contains a high percentage of rubble perlite (over 50 percent) and is assumed to be 12-inches thick. In-place perlite is present immediately below the soil/rubble-perlite layer. Caliche is present in the fractures of the perlite near the surface.

pH: 7.97

Special Handling Problems: The subsoils below 12 inches have a high Electrical Conductivity and need to be buried upon final reclamation against highwalls, etc.

Geology Description: Pleistocene light-gray perlite formed by low-temperature hydration of the upper obsidian overlying a devitrified rhyolite.

Hydrology

Ground Water Description: Basin Perlite Corporation shall not use harmful chemicals such as cyanide, etc. in mining. Basin Perlite and the Division do not anticipate any adverse impact to groundwater in the region. There are some geothermal wells in the surrounding area but they will not be affected by mining activities as the geothermal groundwater is from a deep aquifer well below the zone to be mined.

Surface Water Description: The surface water drainage is totally ephemeral in the area and as such the mine has incorporated good erosion control practices and will, thereby, minimize any damages to ephemeral drainages.

Water Monitoring Plan: There is no need for water monitoring as none exists in the area.

Ecology

Vegetation Type(s); Dominant Species: Pinyon, Juniper, sagebrush.

Percent Surrounding Vegetative Cover: The vegetation cover over the surrounding area is approximately 30 percent, making the ultimate revegetation success standard a minimum of 21 percent.

Wildlife Concerns: None anticipated

Surface Facilities: Portable (mobile) equipment, bulldozer, wheel loader, primary crusher with screen and conveyors, service and pickup trucks, dump trucks, personnel van, fuel and supply storage facilities, trailer and sanitary facilities.

Mining and Reclamation Plan Summary:

During Operations: Basin Perlite will contract the mining and primary crushing of the ore on site. The ore will be campaign mined and crushed to minus 1-1/2 inches. Initially a 20,000 ton mining campaign is recommended, expanding to an estimated 60,000 tons. A portable crushing plant will be used, and the ore from the crushed ore stockpile will be trucked to the process plant located on the east side of Milford. Process plant perlite waste fines will be returned to the mine site for disposal in the mined-out area. The brush will be cleared and grubbed from the areas to be mined, and moved to storage or disposal areas. This brush can be disposed of by burying with the waste rock, burning, chipping for use in reclamation, or as otherwise required. The 12-inch layer of soil/rubble-perlite will be bulldozed into stockpiles for use in later mine reclamation. The estimated four-foot thick perlite/caliche surface zone will be ripped and bulldozed into a waste disposal site, forming the initial portable crusher and ore stockpile pad. As new areas are stripped, this material will be bulldozed into mined-out areas, or stockpiled for later placement in the mined-out areas. The perlite ore will be ripped and bulldozed into a stockpile where a wheel loader will feed the primary crusher. If the in-place perlite ore is too hard for ripping, drilling and blasting may be required. The perlite ore will be crushed to minus 1-1/2 inch and stockpiled. The crushed ore will be trucked to the Milford process plant as required by the plant operating schedule and available storage space. A small natural berm will be left at the edge of the open pit to minimize the movement of fine sediments into the surface drainage of the area. For each subsequent mining campaign, the portable crushing plant will be moved closer to the mining area, as the mining areas move southerly. The operation will be done in a three year phase with areas contemporaneously reclaimed after the third year. Mining will progress southerly in approximately 50-foot increments. As the mining progresses the overburden will be ripped and bulldozed into the mined-out areas of the open pit.

Page 3
Executive Summary
M/001/027
March 8, 2001

After Operations: Mine reclamation will continue annually. Process plant waste will be hauled from the process plant to the mine, placed uniformly over the waste rock, disposed of in the open pit and compacted with a tracked vehicle or compactor. The soil/rubble-perlite will be uniformly placed over the waste rock and process waste disposed of in the mined-out open pit and compacted. The perlite/caliche waste rock placed in the mined-out areas will be contour graded in preparation for reclamation. The surface of the reclaimed area will be contour graded and topsoil replaced over the area, then fertilized and seeded with an approved plant-seed mix. Mine reclamation will be ongoing with the mining operation.

Surety

Amount: \$133,600
Form: (unknown at this time)
Renewable Term: 2006

jb
M01-27-exc-2001

RECLAMATION SURETY ESTIMATE

Basin Perlite Company
 Pearl Queen Perlite Mine
 M/001/027

last revision

01/10/01

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Beaver County

Prepared by Utah State Division of Oil, Gas & Mining

-This estimate uses a D8 size dozer for most earthwork

DRAFT

Note: actual unit costs may vary according to site conditions last unit cost update 2-Aug-2000

-Amount of disturbed area which will receive reclamation treatments = 24.0 acres

-Estimated total disturbed area for this mine = 24.0 acres

Activity	Quantity	Units	\$/unit	\$	Note
Safety gates, signs, etc. (mtls & installation)	2	sum	200	400	(1)
Demolition of buildings & facilities	0	CF	0.24	0	(2)
Debris & equipment removal - trucking	0	trips	50	0	(3)
Debris & equipment removal - dump fees	0	ton	55	0	(4)
Debris & equipment removal - loading trucks w/FE loader	0	hours	166	0	(5)
Demolition & debris removal - general labor	0	hours	15	0	(6)
Regrading facilities areas (1 ft depth)	0.0	acre	502	0	(7)
Overburden replacement - 3 ft depth - dozer	113,740	CY	0.50	56,870	(8)
Ripping waste dump tops	0.0	acre	234	0	(9)
Ripping stockpile & compacted areas	0.0	acre	234	0	(9)
Ripping pit floors	23.3	acre	234	5,452	(9)
Ripping pit access roads	0.0	acre	234	0	(9)
Creating safety berms or barriers around highwalls	3,000	LF	0.16	480	(10)
Ripping access roads - dozer		acre	234	0	(9)
Regrading access roads - dozer	0.0	acre	502	0	(7)
Sidecast mtl replacement on steep roads- trackhoe	1,000	LF	1.09	1,090	(11)
Surface drainage restoration or construction	0	LF	0.16	0	(10)
Topsoil replacement - dozer	14762	CY	0.50	7,381	(12)
Topsoil replacement - scraper	14762	CY	1.15	16,976	(13)
Topsoil replacement - truck & FE loader	0	CY	2.60	0	(14)
Mulching (2 ton/acre alfalfa)	0.0	acre	160	0	(00)
Fertilizing (100 lb/acre diammonium phosphate)	0.0	acre	90	0	(00)
Composted manure (10 ton/acre)	24.0	acre	300	7,200	(00)
Broadcast seeding	24.0	acre	170	4,080	(00)
Drill seeding (~13 lb/acre)	0.0	acre	150	0	(00)
Hydroseeding	0.0	acre	800	0	(00)
General site cleanup & trash removal	12.0	acre	50	600	(00)
Equipment mobilization	2	equip	1000	2,000	(00)
Reclamation Supervision	4	days	386	1,544	(15)
		Subtotal		104,074	
10% Contingency				10,407	
		Subtotal		\$114,481	
Escalate for 5 years at 3.13% per yr				19,073	
		Total		\$133,554	
		Rounded surety amount in yr 2005-\$		\$133,600	
Average cost per disturbed acre =				\$5,567	

RECLAMATION SURETY ESTIMATE

Basin Perlite Company

Pearl Queen Perlite Mine

M/001/027

Prepared by Utah State Division of Oil, Gas & Mining

last revision

01/10/01

filename M027-001.WB2

County

last unit cost update**08/02/00****Note**

- (1) DOGM lump sum assumed
- (2) Means Heavy Construction Cost Data 2000, 02220-100-0100, mix of bldg. types, avg., excluding dump fees
- (3) Means 2000, 02225-730-5100, bldg demo, rubbish handling, \$0.50/CY permile for >8CY truck; assumed 100 miles round trip
- (4) Means 2000, 02225-740-0100, dump charges, typical urban city, tipping fees only, bldg construction mtl's
- (5) Rental Rate Blue Book 3Q/00, Cat 988B, 7CY \$85.64hr+\$39.60/hr, & Means 2000, Crew B-10U, loading trucks only\$40.87
- (6) DOGM assumed wage for unskilled general labor
- (7) Means 2000 & Blue Book 3Q/00: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
- (8) Means 2000 & Blue Book 3Q/00: Cat D8N, U, mtl 2550 lb/CY, 100 ft push
- (9) Means 2000 & Blue Book 3Q/00: Cat D8N, U, multi shank rippers, speed 1.0 mph
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- (10) Means 2000 & Blue Book 3Q/00: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, used avg vol 0.5CY/LF-berm
- (9) Means 2000 & Blue Book 3Q/00: Cat D8N, U, multi shank rippers, speed 1.0 mph
- (7) Means 2000 & Blue Book 3Q/00: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
- (11) Contractor's actual costs, 1991 at E/053/012 escalated to 2000-\$, Cat 225 Excavator, 20 ft wide road
- (10) Means 2000 & Blue Book 3Q/00: Cat D8N, U, mtl 2550 lb/CY, 50 ft push, used avg vol 0.5CY/LF-berm
- (12) Means 2000 & Blue Book 3Q/00: Cat D8N, U, mtl 2550 lb/CY, 100 ft push
- (13) Means 2000 & Blue Book 3Q/00: Cat 627F P-P, mtl 2550 lb/CY, 2,000 ft haul one-way, grade +/- 4%,
- (14) Means 2000 02320-200-2030: earthwork, hauling excavated or borrow material, off highway hauler, 22 CY, 1 mile round trip, no loading includ
- (00) DOGM general estimate - mulching
- (00) DOGM general estimate - fertilizing
- (00) DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading
- (00) DOGM general estimate - broadcast seeding
- (00) DOGM general estimate - drill seeding
- (00) DOGM general estimate - hydroseeding
- (00) DOGM general estimate - site cleanup & trash removal
- (00) DOGM general estimate - equipment mobilization
- (15) Means 2000, 01300-700-0180, project manager, minimum \$1,930/wk